

Form 1449 (modified) 37 C.F.R. §1.97 Information Disclosure Statement By Applicant JAN 17 2006 (Use Several Sheets if Necessary)				Docket: 099/004P U.S.S.N. 10/805,099 Title: Process for Making Transplantable Cardiomyocytes from Human Embryonic Stem Cells Inventors: Chunhui Xu, et al. Filing Date: March 19, 2004 Group: 1632
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U.S. Patent Documents

Examiner Initial	Ref.	Patent No.	Filing Date	Publication Date	Class/ Subclass	Inventors	Title
MN	A	5,733,727	Jun 7/95	Mar 31/98	435/6	Field	Myocardial grafts and cellular compositions
	B	5,843,780	Jan 18/96	Dec 1/98	435/363	Thomson	Primate embryonic stem cells
	C	5,928,943	Nov 21/95	Jul 27/99	435/363	Franz, et al.	Embryonal cardiac muscle cells, their preparation and their use
	D	6,015,671	Nov 21/97	Jan 18/00	435/6	Field	Myocardial grafts and cellular compositions
	E	6,099,832	Jun 19/98	Aug 8/00	424/93.21	Mickle, et al.	Transplants for myocardial scars
	F	6,110,459	May 28/97	Aug 29/00	424/93.21	Mickle, et al.	Transplants for myocardial scars and methods and cellular preparations
	G	6,245,566	Mar 31/98	Jun 12/01	435/384	Gearhart, et al.	Human embryonic germ cell Line and methods of use
	H	6,261,836	May 9/97	Jul 17/01	435/325	Cech, et al.	Telomerase
	I	6,387,369	Jul 14/98	May 14/02	424/93.7	Pittenger, et al.	Cardiac muscle regeneration using mesenchymal stem cells
	J	6,399,300	Nov 16/99	Jun 4/02	435/6	Field	Myocardial grafts and cellular compositions useful for same
	K	6,534,052	Sep 05/00	Mar 18/03	424/93.2	Xiao, et al.	Cardiac function comprising implantation of embryonic stem cell in which differentiation has been initiated
	L	US 20050037489	Jan 20/04	Feb 17/05	435/366	Gepstein, et al.	Methods of inducing differentiation of stem cells
MN	M	US20050227353	Jan. 14/04	Oct 13/05	435/366	Mummery	Methods of inducing differentiation of stem cells

Foreign Patent or Published Foreign Patent Application

Examiner Initial	Ref.	Document No.	Publication Date	Jurisdiction	Title	Translation
MN	N	AU 729377	Feb 1/01	Australia	Methods and materials for the growth of primate-derived primordial stem cells in feeder-free culture	N/A
	P	WO 92/13066	Aug 6/92	PCT	Mammalian cardiac myocyte cell line	N/A
	Q	WO 95/14079	May 26/95	PCT	Myocardial grafts and cellular compositions useful for same	N/A
	R	WO 99/49015	Sep 30/99	PCT	Cardiac-derived stem cells	N/A
	S	WO 00/06701	Feb 10/00	PCT	Improvement of cardiac function by mesenchymal stem cell transplantation	N/A
MN	T	WO 00/70021	Nov 23/00	PCT	Differentiated human embryoid cells and a method for producing them	N/A

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Examiner Initial	Ref.	Document No.	Publication Date	Jurisdiction	Title	Translation
MN	U	WO 00/78119	Dec 28/00	PCT	Cardiomyocytes with enhanced proliferative potential, and methods for preparing and using same	N/A
	V	WO 01/22978	Apr 5/01	PCT	Autologous marrow stem cell (MSC) transplantation for myocardial regeneration	N/A
	W	WO 01/51616	Jul 19/01	PCT	Techniques for growth and differentiation of human pluripotent stem cells	N/A
	X	WO 01/53465	Jul 26/01	PCT	Human embryoid body-derived cells	N/A
	Y	WO 01/68814	Sep 20/01	PCT	Multipotent cell and cardiomyocyte cell populations, and routes to and uses of same	N/A
	Z	WO 02/09650	Feb 7/02	PCT	Methods and compositions for the repair and/or regeneration of damaged myocardium	N/A
	AA	WO 02/13760	Feb 21/02	PCT	Methods and compositions for the repair and/or regeneration of damaged myocardium	N/A
	AB	WO 02/19893	Mar 14/02	PCT	Method for the improvement of cardiac function in a living subject after myocardial infarction via intramyocardial implantation of mammalian embryonic stem cells	N/A
	AC	WO 02/30206	Apr 18/02	PCT	Genetically altered mammalian embryonic stem cells, their living progeny, and their therapeutic application for improving cardiac function after myocardial infarction	N/A
	AD	WO 03/006950	Jan 23/03	PCT	Cells of the cardiomyocyte lineage produced from human pluripotent stem cells	N/A
MN	AE	WO 04/081205	Sep 23 2004	PCT	Differentiation of human embryonic stem cells to cardiomyocytes	N/A

Other Documents

Examiner Initial	Ref.	Author, Title, Source, Date
MN	AF	Alsan et al., Regulation of avian cardiogenesis by Fgf8 signaling, Development, 129:1935 (2002)
	AG	Andree et al., BMP-2 induces expression of cardiac lineage markers and interferes with somite formation in chicken embryos, Mech. of Deve., 70:119 (1998)
	AH	Antin et al., Regulation of avian precardiac mesoderm development by insulin and insulin-like growth factors, J. Cell. Physiol. 168:42 (1996)
	AI	Arai et al., Murine cardiac progenitor cells require visceral embryonic endoderm and primitive streak for terminal differentiation, Dev. Dynamics 210:344 (1997)
	AJ	Barron et al., Requirement for BMP and FGF signaling during cardiogenic induction in non-precardiac mesoderm is specific, transient, and cooperative, Dev. Dynamics 218:383 (2000)
	AK	Bauwens et al., Development of perfusion fed bioreactor for embryonic stem cell-derived cardiomyocyte generation: oxygen-mediated enhancement of cardiomyocyte output, biotechnology and bioengineering 90 (4):452 (2005)
	AL	Behfar et al., Stem cell differentiation requires a paracrine pathway in the heart, FASEB J, 16:1558 (2002)
MN	AM	Claycomb et al., HL-1 cells: A cardiac muscle cell line that contracts and retains phenotypic characteristics of the adult cardiomyocyte, Proc. Natl. Acad. Sci. USA 95:2979 (1998)

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MN	AN	Dang et al. Controlled, scalable embryonic stem cell differentiation culture, <i>Stem Cells</i> , 22:275 (2004)
MN	AO	Doevendans et al., Differentiation of cardiomyocytes in floating embryoid bodies is comparable to fetal cardiomyocytes, <i>J. Mol. Cell Cardiol</i> , 32:839 (2000)
MN	AP	Dubus et al., Contractile protein gene expression in serum-free cultured adult rat cardiac myocytes, <i>Pflugers Arch</i> , 423:455 (1993)
MN	AQ	Fukuda, Development of regenerative cardiomyocytes from mesenchymal stem cells for cardiovascular tissue engineering, <i>Artificial Organs</i> 25:187 (2001)
	AR	Gepstein, Derivation and Potential Applications of Human Embryonic Stem Cells, <i>Circulation Research</i>, 91 (10):866 (2002)
MN	AS	Grepin et al., Enhanced cardiogenesis in embryonic stem cells overexpressing the GATA-4 transcription factor, <i>Development</i> 124:2387 (1997)
	AT	Gryschko et al., Outwards currents in embryonic stem cell-derived cardiomyocytes, <i>Pflugers Arch</i> , 439:798 (2000)
	AU	Heng et al., Strategies for directing the differentiation of stem cells into the cardiomyogenic lineage in vitro, <i>Cardiovascular Research</i> , 62:34 (2004)
	AV	Itskovitz-Eldor et al., Differentiation of Human Embryonic Stem Cells into Embryoid Bodies Comprising the Three Embryonic Germ Layers, <i>Mol. Med.</i> 6:88 (2000)
	AW	Johansson et al., Evidence for involvement of activin A and bone morphogenetic protein 4 in mammalian mesoderm and hematopoietic development, <i>Molecular and Cellular Biology</i> , 15(1):141 (1995)
	AX	Kawai et al., Efficient cardiomyogenic differentiation of embryonic stem cell by fibroblast growth factor 2 and bone morphogenetic protein 2, <i>Circ J</i> 68:691 (2004)
	AY	Kehat et al., Electromechanical integration of cardiomyocytes derived from human embryonic stem cells, <i>Nature Biotechnology</i> , 22(10):1282 (2004)
MN	AZ	Kehat et al., Human embryonic stem cells can differentiate into cyocytes with structural and functional properties of cardiomyocytes, <i>J. Clin. Invest.</i> , 108:407 (2001)
	BA	Kehat et al., Long term high resolution, Electrophysiological assessment of human embryonic stem cell derived cardiomyocytes. A novel in vitro model for the human heart, <i>Circulation</i>, 102 (10 Suppl II):II-1 (2000)
MN	BB	Kessler et al., Myoblast cell grafting into heart muscle: Cellular biology and potential applications, <i>Annu. Rev. Physiol.</i> 61:219 (1999)
	BC	Klug et al. Genetically selected cardiomyocytes from differentiating embryonic stem cells form stable intracardiac grafts, <i>J. Clin. Invest.</i> 98:216 (1996)
	BD	Koide et al., Atrial natriuretic peptide accelerates proliferation of chick embryonic cardiomyocytes in vitro, <i>Differentiation</i> 61:1 (1996)
	BE	Kolossov et al., Functional characteristics of ES cell-derived cardiac precursor cells identified by tissue-specific expression of the green fluorescent protein, <i>J. Cell Biol.</i> 143:2045 (1998)
	BF	Ladd et al., Regulation of avian cardiac myogenesis by activin/TGFB and bone morphogenetic proteins, <i>Dev. Biology</i> 204:407 (1998)
	BG	Lev et al., Differentiation pathways in human embryonic stem cell-derived cardiomyocytes, <i>Ann. N.Y. Acad. Sci.</i> 1047:50 (2005)
	BH	Liechty et al., Human mesenchymal stem cells engraft and demonstrate site-specific differentiation after in utero transplantation in sheep, <i>Nature Med.</i> 6:1282 (2000)
MN	BI	Li et al., Isolation of cardiomyocytes from human myocardium for primary cell culturing, <i>J. Tiss. Cult. Meth.</i> 15:147 (1993)

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MN	BJ	Lough et al., Combined BMP-2 and FGF-4, but neither factor alone, induces cardiogenesis in non-precardiac embryonic mesoderm, Dev. Biology 178:198 (1996)
	BK	Makino et al., Cardiomyocytes can be generated from marrow stromal cells in vitro, J. Clin. Invest. 103:697 (1999)
	BL	Maltsev et al., Embryonic stem cells differentiate in vitro into cardiomyocytes representing sinusnodal, atrial and ventricular cell types, Mechanisms Dev. 44:41 (1993)
	BM	Matsushita et al., Formation of cell junctions between grafted and host cardiomyocytes at the border zone of rat myocardial infarction, Circulation 100(suppl. II): II-262 (1999)
	BN	Marvin et al., Inhibition of Wnt activity induces heart formation from posterior mesoderm, Genes Dev. 15:316 (2001)
	BO	McBurney et al., Control of muscle and neuronal differentiation in a cultured embryonal carcinoma cell line, Nature 299:165 (1982)
	BP	McDowell et al., Activin as a morphogen in Xenopus mesoderm induction, Seminars in Cell & Development Biology, 10:311 (1999)
	BQ	Menard et al., Transplantation of cardiac-committed mouse embryonic stem cells to infarcted sheep myocardium: preclinical study, Lancet 366:1005 (2005)
	BR	Messina et al., Isolation and expansion of adult cardiac stem cells from human and murine heart, 95:911 (2004)
	BS	Min et al., Transplantation of embryonic stem cells improves cardiac function in postinfarcted rats, J. Appl. Physiol. 92:288 (2002)
	BT	Monzen et al., Bone morphogenetic proteins induce cardiomyocyte differentiation through the mitogen-activated protein kinase kinase kinase kinase TAK1 and cardiac transcription factors CsxNkx-2.5 and GATA-4, Mol. Cell Biol. 19:7096 (1999)
	BU	Muller et al., Selection of ventricular-like cardiomyocytes from ES cells in vitro, FASEB J. 14:2540 (2000)
	BV	Mummery et al., Cardiomyocyte differentiation of mouse and human embryonic stem cells, J Anat., 200 (Pt 3):233
	BW	Mummery et al., Differentiation of human embryonic stem cells to cardiomyocytes: Role of coculture with visceral endoderm-like cells, Circulation, 107:2733 (2003)
	BX	Muslin et al., Well-defined growth factors promote cardiac development in axolotl mesodermal explants, Development 112:1095 (1991)
	BY	Narita et al., Cardiomyocyte differentiation by GATA-4-deficient embryonic stem cells, Development 124:3755 (1997)
	BZ	Olson et al., Molecular pathways controlling heart development, Science 272:671 (1996)
	CA	Odorico et al., Multilineage differentiation from human embryonic stem cell lines, Stem Cells, 19:193 (2001)
	CB	Oh et al. Cardiac progenitor cells from adult myocardium: Homing, differentiation, and fusion after infarction, PNAS 100(21): 12313 (2003)
	CO	O'Shea, Embryonic Stem cell models of development, Anatomical Record, 257 (1):32 (1999)
	CC	Qin et al., Gene transfer of transforming growth factor- β 1 prolongs murine cardiac allograft survival by inhibiting cell-mediated immunity, Human Gene Therapy 7:1981 (1996)
	CD	Reubinoff et al., Embryonic stem cell line from human blastocysts: somatic differentiation in vitro, Nature Biotech. 18:399 (2000)
MN	CE	Satin et al., Mechanism of spontaneous excitability in human embryonic stem cell derived cardiomyocytes, J Physiol 559(2):479 (2004)

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MN	CF	Scalia et al., Regulation of the Akt/Glycogen synthase kinase-3 axis by insulin-like growth factor-II via activation of the human insulin receptor isoform-A, <i>J. Cell. Biochem.</i> 82:610 (2001)
	CG	Schlange et al., BMP2 is required for early heart development during a distinct time period, <i>Mechanisms of Development</i> , 91:259 (2000)
	CH	Schneider et al., Wnt antagonism initiates cardiogenesis in <i>Xenopus laevis</i> , <i>Genes Dev.</i> 15:304 (2001)
	CI	Schuldiner et al., Effects of eight growth factors on the differentiation of cells derived from human embryonic stem cells, <i>PNAS</i> 97:11307 (2000)
	CL	Schultheiss et al., Induction of avian cardiac myogenesis by anterior endoderm, <i>Development</i> 121:4203 (1995)
	CJ	Schultheiss et al., A role for bone morphogenetic proteins in the induction of cardiac myogenesis, <i>Genes & Dev.</i> 11:451 (1997)
	CK	Shambrott et al., Derivation of pluripotent stem cells from cultured human primordial germ cells, <i>Proc. Natl. Acad. Sci. USA</i> 95:13726 (1998)
	CM	Shi et al., BMP signaling is required for heart formation in vertebrates, <i>Dev. Biol.</i> 224:226 (2000)
	CN	Skerjane, et al., Myocyte enhancer factor 2C and Nkx2-5 up-regulate each other's expression and initiate cardiomyogenesis in P19 cells, <i>J. Biol. Chem.</i> 273:34904 (1998)
	CP	Sugi et al., Activin-A and FGF-2 mimic the inductive effects of anterior endoderm on terminal cardiac myogenesis in vitro, <i>Dev. Biology</i> 168:567 (1995)
	CQ	Symes et al., Morphological differences in <i>Xenopus</i> embryonic mesodermal cells are specified as and early response to distinct threshold concentrations of activin, <i>Development</i> 120:2339 (1994)
	CR	Thomson et al., Embryonic stem cell lines derived from human blastocysts, <i>Science</i> 282:1145 (1998)
	CS	Velez et al., Modulation of contractile protein troponin-T in chick myocardial cells by basic fibroblast growth factor and platelet-derived growth factor during development, <i>J. Cardiovascular Pharmacology</i> 24:906 (1994)
	CT	Volz et al., Longevity of adult ventricular rat heart muscle cells in serum-free primary culture, <i>J. Mol. Cell Cardiol.</i> 23:161 (1991)
	CU	Walters et al., Bone morphogenetic protein function is required for terminal differentiation of the heart but not for early expression of cardiac marker genes, <i>Mechanisms of Development</i> , 100:263 (2001)
	CV	Wobus et al., In vitro cellular models for cardiac development and pharmacotoxicology, <i>Toxic. in Vitro</i> 9:477 (1995)
	CW	Wobus et al., Development of cardiomyocytes expressing cardiac-specific genes, action potentials, and ionic channels during embryonic stem cell-derived cardiogenesis, <i>Ann. N.Y. Acad. Sci.</i> 752:460 (1995)
	CX	Wobus et al., Retinoic acid accelerates embryonic stem cell-derived cardiac differentiation and enhances development of ventricular cardiomyocytes, <i>J. Mol. Cell Cardiol.</i> 29:1525 (1997)
	CY	Xu et al., Feeder-free growth of undifferentiated human embryonic stem cells, 19 (10): 971 (2001)
	CZ	Xu et al., Characterization and enrichment of cardiomyocytes derived from human embryonic stem cells, <i>Circulation Research</i> , 91 (6): 501 (2002)
	DA	Xu et al., Specific arrest of cardiogenesis in cultured embryonic stem cells lacking Cripto-1, <i>Dev Biol.</i> 196:237 (1998)
	DB	Yatskivych et al., Induction of cardiac myogenesis in avian pregastrula epiblast: the role of the hypoblast and activin, <i>Development</i> , 124:2561 (1997)
MN	DC	Zandstra et al., Scalable production of embryonic stem cell-derived cardiomyocytes, <i>Tissue Engineering</i> , 9(4):767 (2003)

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MN	DD	Zhu et al., Evidence that fibroblast growth factors 1 and 4 participate in regulation of cardiogenesis, Dev. Dynamics 207:429 (1996)
MN	DE	Zingg et al., Genetic and epigenetic aspects of DNA methylation on genome expression, evolution, mutation and carcinogenesis, Carcinogenesis 18:869 (1997)

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